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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,642

11/15/2006

Sean J. Campbell

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EXAMINER

LI, JUN

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1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/556,642	Applicant(s) CAMPBELL, SEAN J.	
	Examiner JUN LI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-25 is/are pending in the application.
- 4a) Of the above claim(s) 23-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/17/2009 has been entered.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. **Claim 1, 3-7, 11, 14 and 17-18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monawar in view of Ruediger (DE4342407) and Shayan (Value-Added Utilisation of Waste Glass in Concrete, IABSE Symposium Melbourne 2002).**

Monawar teaches a pourable cementitious ([0036]) composition comprising a hydraulic binder such as Portland cement or gypsum ([0026]), recovered waste glass with a water/cement ratio of 0.15 to 0.8:1 ([0029], [0030], claim 1). Furthermore, Monawar teaches gypsum used as hydraulic hardening cement, thus the calcium sulfate modifications hemihydrate (α or β) as well as anhydrite are considered to be implicitly included.

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Monawar discloses a composition comprising 60 to 93 % binder and 5 to 38 % waste glass wherein the binder can be Portland cement, high alumina cement, gypsum as well as mixtures of these cements ([0026], [0029]). Monawar further teaches admixtures such as lignosulfonate plasticizers ([0027]), retarders and accelerators ([0028]) may be added.

Regarding claim 1, 3-4, 11, 14 and 17-18, assuming applicants arguing that Monawar fails to expressly teach using 10%-40% calcium sulfate binder selected from at least one of alpha hemihydrate, plaster, beta hemihydrate plaster, anhydrite or their combinations. However, gypsum is calcium sulfate powder.

Ruediger teaches using different types of calcium sulfate such as anhydrite calcium sulfate powder as a binder composition for powder screed compound (machine translation claim 4-6).

It would have been obvious to adopt anhydrite calcium sulfate to improve the cementitious composition of Monawar. One of ordinary would have been appreciated to do so because Monawar needs a specific gypsum as a binder without describing a specific one while Ruediger provides a specific gypsum i.e. anhydrite calcium sulfate. Furthermore, adopting known technique to improve efficiency of similar composition is well within one of ordinary skill in the art. Furthermore, the recited ranges of the recycled weight glass, calcium sulfate binder, water overlapping with the recited ranges in the instant claims, thus renders a prima facie case of obviousness (See § MPEP 2144.05 [R-5] I).

Monawar is silent about the recited recycled glass waste in the form of aggregate or recycled glass waste sand.

Shayan teaches glass waste in different forms such as coarse, and fine aggregates (i.e. coarse sand) (read onto recycled glass waste sand in the instant claim) and in powder form (i.e. fine sand) (page 2 5th and last paragraph, page 3 2nd paragraph, page 4 last paragraph-page 5 first paragraph, Fig. 3) can be used as components for concrete formation (abstract, page 2 5th and last paragraph).

It would have been obvious for one of ordinary skill in the art at the time of invention filed to adopt such coarse and/or fine aggregates as shown by Shayan to modify the screed composition of Monawar because such coarse and fine glass aggregates can expand the waste glass material format choices for making concrete material while coarse, fine aggregates and glass powder can be successfully used for making concrete material from recycled glass as shown by Shayan (page 1 last paragraph-page 2 second paragraph, 5th and last paragraph, page 4 last paragraph-page 5 first paragraph).

Furthermore, Monawar teaches recycled glass waste can be crushed, ground, pulverized and processed into glass powder which is essentially similar as those glass sand producing method as described in the instant specification (page 1 4th paragraph), thus similar glass sand is expected absent evidence to the contrary.

Regarding claim 5-7, Monawar already teaches about 60-93% cement such as high alumina, Portland cement, gypsum and or their mixture can be used ([0026], [0029]). . Ruediger further teaches a hydraulic binder for screed composition using 0.5-

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20% Portland cement (claim 1) whose weight ratio overlaps with the instant claims.

Furthermore, MPEP states that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation” (See MPEP §2144.05 [R-5] II). Ruediger also discloses calcium aluminum cement ($2\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{SiO}_2$ as well as $12\text{CaO} \cdot \text{Al}_2\text{O}_3$) (machine translated detailed description page 1 10th paragraph) can be used as composition for a hydraulic binder. It would have been obvious to one of ordinary skill in the art using the teachings of Ruediger to improve the composition of Monawar for desired cementitious cement.

2. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monawar in view of Ruediger (DE4342407) and Shayan (Value-Added Utilisation of Waste Glass in Concrete, IABSE Symposium Melbourne 2002) as applied to 1, 3-7, 11, 14 and 17-18 above, and further in view of Niel (WO03/045870).

The references of Monawar in view of Ruediger and Shayan have been described above. Monawar further teaches limestone can used as mixture to solidify cementitious composition ([0032], [0033]).

Regarding claim 8-10, the references of Monawar in view of Ruediger and Shayan fail to expressly teach using recited percentage limestone, fuel ash, silica fume as hydraulic binder in the composition.

Niel teaches teach pulverizing limestone, fly ash, SiO_2 mixture for a composition with hydraulic binding properties wherein has 32-52% CaO , 23-45% SiO_2 (claim 1, abstract, page 1 lines 11-14).

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It would have been obvious to one of ordinary skill in the art the time of invention to use the hydraulic binder of Niel to practice the cementitious composition of Monawar in view of Ruediger and Shayan. One of ordinary skill in the art would have appreciated using the hydraulic binder of Niel because the hydraulic binder expands the choices of binders for cementitious compositions of Monawar in view of Ruediger and Shayan for manufacturing a desired final cementitious product. Furthermore, MPEP states that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation” (See MPEP §2144.05 [R-5] II).

3. Claims 12-13, 15-16 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monawar in view of Ruediger (DE4342407) and Shayan (Value-Added Utilisation of Waste Glass in Concrete, IABSE Symposium Melbourne 2002) as applied to 1, 3-7, 11, 14 and 17-18 above, and further in view of Cowan (US5298070).

The references of Monawar in view of Ruediger and Shayan have been described above.

Regarding claim 12-13 and 15-16, the references of Monawar in view of Ruediger and Shayan fails to expressly teach using recited percentage of specific retarders and accelerators.

Cowan teaches additives such as citric acid, boric acid etc can be used as retarders while sodium, calcium salt can be used as accelerators in the cementitious composition (column 4 lines 60-68, and column 5 first 3 lines). It is to be noted that

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generally additive will add to the composition in a very small amount. Furthermore, MPEP states that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation” (See MPEP §2144.05 [R-5] II).

It would have been obvious to one of ordinary skill in the art the time of invention to use the retarders and accelerators of Cowan to practice the cementitious composition of Monawar in view of Ruediger and Shayan. One of ordinary skill in the art would have appreciated using the retarders and accelerators of Cowan because Monawar in view of Ruediger and Shayan needs retarders and accelerators without describing specific ones to manufacturing a desired final cementitious product.

Regarding claim 19-22, the references of Monawar in view of Ruediger and Shayan fails to expressly teach the cementitious composition has a 0.02-2% plasticizer and 1-6% polymer.

Cowan teaches using surfactant (0.05-5% by volume) and polymer (0.1%-5%) to reduce fluid loss from the cement (abstract, column 2 lines 20-30).

It would have been obvious to one of ordinary skill in the art the time of invention to use the recited percentage of plasticizer and polymer of Cowan to practice the cementitious composition of Monawar in view of Ruediger and Shayan. One of ordinary skill in the art would have been appreciated to do so because probable percentage of surfactant and polymer and help reducing fluid loss in the cement as shown by Cowan (abstract, column 2 lines 20-30).

Furthermore, MPEP states that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation” (See MPEP §2144.05 [R-5] II).

Response to Arguments

Applicant's arguments filed 11/17/2009 have been fully considered but they are not persuasive. In response to applicant's arguments about Monawar not teaching recycled glass waste in the form of an aggregate or of a recycled glass waste sand, it is noted that newly applied evidence document Shayan teaches recycled glass can be used in cementitious compound as aggregate or coarse sand as well as a fine sand (i.e. glass powder) (page 2 last paragraph, page 4 last paragraph) as disclosed by Monawar. Furthermore, Monawar teaches a substantially similar method as in the instant specification for making a glass powder, thus a substantially similar glass sand product is expected absent evidence to the contrary. As for the argued recycled glass size, it is noted that the features upon which applicant relies (i.e., glass size limitation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Shayan already clearly teaches different size of glass waste can be used, thus one of ordinary skill in the art would have been obvious to adopt a proper size glass waste for making a desired final cementitious product (See § MPEP 2144.04 [R-6] IV). In order to show

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glass particle size range nonobviousness, applicant is reminded to supply evidence/data to support such criticality or nonobviousness.

Conclusion

All the elected claims are rejected for the reasons of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUN LI whose telephone number is (571)270-5858. The examiner can normally be reached on Monday-Friday, 8:00am-5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUN LI/
Examiner, Art Unit 1793

May 19, 2010

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793